

Guidelines for Checking TRANE TRACE Output

The following is a list of guidelines used to check TRANE TRACE output. Note that these are only quick checks to make sure you're on the right track. Please feel free to add to or complete these values over the upcoming semesters.

Important reports include: Room checksums, zone checksums, and system checksums

Highlighted below in red are two important areas in the TRACE output. Cooling coil selection shows the overall tons of cooling for the zone, room, or system depending on the report. Also Engineering checks provide a quick way to see if your calculation makes any sense. See the suggested engineering check values below.

and place signature on a PDF File.

Zone Checksums

By ACADEMIC

Existing Gym Center

COOLING COIL PEAK				CLG SPACE PEAK				HEATING COIL PEAK				TEMPERATURES				
Peaked at Time: Mo/Hr: 7 / 15				Mo/Hr: 7 / 17				Mo/Hr: Heating Design				Cooling Heating				
Outside Air: OADB/WBHR: 91 / 74 / 101				OADB: 89				OADB: 11				SADB	47.4	79.3		
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total	Space Sensible	Percent Of Total	Space Peak	Coil Peak	Percent Of Total	Space Sens	Tot Sens	Percent Of Total	Ra Plenum	90.3	58.3		
Btu/h	Btu/h	Btu/h	(%)	Btu/h	(%)	Btu/h	Btu/h	(%)	Btu/h	Btu/h	(%)	Return	90.3	58.3		
Envelope Loads				Envelope Loads				Envelope Loads				Ret/OA	90.8	25.2		
Skyli Solar	0	0	0	0	0	0	0	0.00	Skyli Solar	0	0	0.00	Fn MtrTD	0.0	0.0	
Skyli Cond	0	0	0	0	0	0	0	0.00	Skyli Cond	0	0	0.00	Fn BldTD	0.0	0.0	
Roof Cond	389,573	389,573	41	0	0	0	-293,539	39.87	Roof Cond	0	0	0.00	Fn Frit	0.0	0.0	
Glass Solar	0	0	0	0	0	0	0	0.00	Glass Solar	0	0	0.00				
Glass/Door Cond	0	0	0	0	0	0	0	0.00	Glass/Door Cond	0	0	0.00				
Wall Cond	2,222	162	2,384	2,201	1	-5,282	-8,089	0.82	Wall Cond	-5,282	-8,089	0.82				
Partition/Door	0	0	0	0	0	0	0	0.00	Partition/Door	0	0	0.00				
Floor	0	0	0	0	0	0	0	0.00	Floor	0	0	0.00				
Adjacent Floor	0	0	0	0	0	0	0	0.00	Adjacent Floor	0	0	0.00				
Infiltration	0	0	0	0	0	0	0	0.00	Infiltration	0	0	0.00				
Sub Total ==>	2,222	389,735	391,958	42	2,201	1	-299,628	40.39	Sub Total ==>	-5,282	-299,628	40.39				
Internal Loads				Internal Loads				Internal Loads				AIRFLOWS				
Lights	138,759	0	138,759	15	138,759	37	0	0.00	Lights	0	0	0.00	Diffuser	12,456	12,456	
People	193,000	0	193,000	21	84,000	22	0	0.00	People	0	0	0.00	Terminal	12,456	12,456	
Misc	0	0	0	0	0	0	0	0.00	Misc	0	0	0.00	Main Fan	12,456	12,456	
Sub Total ==>	331,759	0	331,759	35	222,759	59	0	0.00	Sub Total ==>	0	0	0.00	Sec Fan	0	0	
Ceiling Load	141,117	-141,117	0	0	153,475	41	-107,319	0.00	Ceiling Load	-107,319	0	0.00	Nom Vent	8,712	8,712	
Ventilation Load	0	0	364,492	39	0	0	-565,971	76.30	Ventilation Load	0	-565,971	76.30	AHU Vent	8,712	8,712	
Adj Air Trans Heat	0	0	0	0	0	0	0	0.00	Adj Air Trans Heat	0	0	0.00	Infil	0	0	
Dehumid. Ov Sizing	95	-147,117	-147,117	-16	95	0	-15,159	2.04	Ov/Undr Sizing	-15,159	-15,159	2.04	MinStop/Rh	0	0	
Exhaust Heat	0	0	0	0	0	0	111,881	-15.08	Exhaust Heat	111,881	-15,08	0.00	Return	12,456	12,456	
Sup. Fan Heat	0	0	0	0	0	0	0	0.00	OA Preheat Diff.	0	0	0.00	Exhaust	8,712	8,712	
Ret. Fan Heat	0	0	0	0	0	0	0	0.00	RA Preheat Diff.	0	0	0.00	Rm Exh	0	0	
Duct Heat PkUp	0	0	0	0	0	0	27,070	-3.66	Additional Reheat	27,070	-3.66	0.00	Auxiliary	0	0	
Underflr Sup Ht PkUp	0	0	0	0	0	0	0	0.00	System Plenum Heat	0	0	0.00	Leakage Dwn	0	0	
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Underflr Sup Ht PkUp	0	0	0.00	Leakage Ups	0	0	
Supply Air Leakage	0	0	0	0	0	0	0	0.00	Supply Air Leakage	0	0	0.00	ENGINEERING CKS			
Grand Total ==>	475,194	101,501	941,187	100.00	378,530	100.00	-127,780	-741,807	100.00	Grand Total ==>	-127,780	-741,807	100.00	% OA	Cooling	Heating
COOLING COIL SELECTION				AREAS				HEATING COIL SELECTION				and place signature on a PDF File.				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WBHR	Gross Total	Glass			Capacity	Coil Airflow	Ent	Lvg					
ton	MBh	cfm	°F	ft²	ft²	(%)		MBh	cfm	°F	°F					
Main Clg	78.4	941.2	621.2	Floor	29,040	0		Main Htg	-437.7	12,456	47.4	79.3				
Aux Clg	0.0	0.0	0.0	Part	0	0		Aux Htg	0.0	0	0.0	0.0				
Opt Vent	0.0	0.0	0.0	Int Door	0	0		Preheat	-304.1	12,456	25.2	47.4				
Total	78.4	941.2	0.0	ExFlr	0	0		Humidif	0.0	0	0.0	0.0				
				Roof	29,040	0	0	Opt Vent	0.0	0	0.0	0.0				
				Wall	1,850	0	0	Total	-741.8							
				Ext Door	0	0	0									

Project Name: IM Building Expansion

Dataset Name: IMEXPANSION.TRC

TRACE® 700 v6.2.6.5 calculated at 08:09 AM on 04/10/2012

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Engineering Checks:

cfm/ton < 400

SF/ton suggestions:

Office: 400 SF/ton

Data Center: 100 SF/ton

Workout/ Labs: 200 SF/ton

House: 550~800 SF/ton